

CCSU Comprehensive Curriculum for Math

Grade Level 2

Power Standard #1 – Numbers and Operations: Students understand value and apply properties and operations of numbers. (Aligns with Vermont Standard 7.6)

Power Standard #2 – Geometric Figures: Students know and apply the attributes of geometric figures. (Aligns with Vermont Standard 7.7)

Power Standard #3 – Units of Measure: Students know and use units of measure. (Aligns with Vermont Standard 7.7)

Power Standard #4 – Patterns, Equations, and Inequalities: Students identify and extend patterns to express relationships between and among variables, and solve equations and inequalities. (Aligns with Vermont Standard 7.8)

Power Standard #5 – Data: Students represent, interpret, and predict using data. (Aligns with Vermont Standard 7.9)

Power Standard #6 – Probability: Students find probability theoretically and experimentally. (Aligns with Vermont Standard 7.9)

Power Standard #7 – Problem Solving: Students use a variety of approaches to solve problems and communicate solutions. (Aligns with Vermont Standard 7.10)

Grade Level 2, Power Standard 1

CCSU Power Standard #1: Students understand value and apply properties and operations of numbers. (Aligns with Vermont Standard 7.6)

Concepts to Emphasize: Even/Odd, Row/Column, Place Value - “Ten-ness”, Group, Fraction, Whole, Halves, Thirds, Fourths, Money/Coins, Estimating / Rounding Numbers

Aligns with Vermont Standards	Vermont Grade Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.6	<p>M2: 1 Demonstrates conceptual understanding of rational numbers with respect to whole numbers from <u>0 to 199</u> using place value, by applying the concepts of equivalency in composing or decomposing numbers (e.g., $34 = 17 + 17$; $34 = 29 + 5$); and in expanded notation (e.g., $141 = 1 \text{ hundred} + 4 \text{ tens} + 1 \text{ one}$ or $141 = 100 + 40 + 1$) using models, explanations, or other representations; and</p> <p>positive fractional numbers (benchmark fractions: $a/2$, $a/3$, or $a/4$, where a is a whole number greater than 0 and less than or equal to the denominator) <u>as a part to whole relationship in area and set models where the denominator is equal to the number of parts in the whole</u> using models, explanations, or other representations M(N&O)–2–1</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Identify place value for ones/ tens/hundreds • Find equivalent names for numbers • Determining 1, 10, 100 more/less • Solve number grid puzzles • Express automatically values digits in 2, 3, 4, 5 digit- number • Make difference and ration comparisons <ul style="list-style-type: none"> • Recognize equivalent fractions • Shade a fractional part of a region/set • Give fractional name of shaded part of a region/set • Understand fractions as names for equal parts of a region • Understand significance of whole <p>Learning Opportunities: 1.9, 1.10, 1.11, 2.9, 3.1, 3.4, 7.2, 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 10.8, 10.9, 10.10, 10.11, 11.2, 11.9</p>	<p>Identify and name the value of each digit in a three-digit Number (1a)</p> <p>Read and write numbers to 999 (1d)</p> <p>Use halves, thirds, and fourths to identify and create a whole and a set (1e)</p>

	<p>M2: 2 Demonstrates understanding of the relative magnitude of numbers from 0 to 199 by ordering whole numbers; by comparing whole numbers to each other or to benchmark whole numbers (10, 25, 50, <u>75, 100, 125, 150, or 175</u>); <u>by demonstrating an understanding of the relation of inequality</u> when comparing whole numbers by using “1 more,” “1 less,” “10 more,” “10 less,” “100 more,” or “100 less”; or by connecting number words and numerals to the quantities they represent using models, number lines, or <u>explanations</u>.</p> <p style="text-align: right;">M(N&O)–2–2</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Compare numbers: write symbols <, >, and = • Compare fractions <p>Learning Opportunities: 8.5, 8.6, 8.7, 1.12</p>	<p>Express 10 more / 10 less and 100 more/ 100 less (1b)</p>
	<p>M2: 3 Demonstrates conceptual understanding of mathematical operations involving addition and subtraction of whole numbers by solving problems involving <u>joining actions, separating actions, part-part-whole relationships, and comparison situations</u>; and <u>addition of multiple one-digit whole numbers</u>. (See Appendix A.)</p> <p style="text-align: right;">M(N&O)–2–3</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Solve addition/ subtraction number stories • Construct fact families for addition/ subtraction • Add/subtract multiples of ten • Solve stories about multiple of equal groups • Solve equal-grouping and equal-sharing division problems • Model multiplication with arrays • Multiply numbers with 0, 1, 2, 5 or 10 as a factor • Construct multiplication/division fact families <p>Learning Opportunities: 2.1, 2.6, 2.8, 4.1, 4.2, 4.6, 4.7, 4.8, 4.9, 6.1, 6.3, 6.4, 6.5, 6.7, 6.8, 6.9, 6.10, 6.11, 6.12, 11.3, 11.4, 11.5, 11.6, 11.7, 11.8, 11.9, 12.1, 12.5</p>	

	<p>M2: 4 No M2: 4 at this grade level</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Devise/use strategy for finding sums of 2 digit numbers • Devise/use strategy for finding differences of 2 digit numbers • Use the trade-first method to solve 2-digit subtraction • Use parentheses in number models • Use calculator to compute money amounts • Solve money stories <p>Learning Opportunities: 4.1, 4.4, 4.6, 4.7, 4.8, 4.9, 6.6, 6.10, 6.12, 10.3, 10.4, 10.6 10.7, 10.8 10.11</p>	
	<p>M2: 5 Demonstrates understanding of monetary value by adding coins together to a value no greater than <u>\$1.99 and representing the result in dollar notation; making change from \$1.00 or less, or recognizing equivalent coin representations of the same value (values up to \$1.99).</u></p> <p style="text-align: right;">M(N&O)–2–5</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Find value of coins and bill combinations • Make change • Show “P, N,D, Q” for a given amount • Read and write money amounts in decimal notation • Use equivalent coins to show money amounts in different ways • Use calculator to compute money • Solve money stories involving change <p>Learning Opportunities: 1.2, 1.6, 3.2, 3.7, 3.8, 10.1, 10.2, 10.3, 10.4, 10.6, 10.7, 10.8, 10.10</p>	<p>Make change from \$1.00 (1g)</p> <p>Count mixed coins to \$1.99 (1f)</p>

	<p>M2: 6 Mentally adds and subtracts whole-numbers facts through <u>twenty</u> with accuracy.</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Know addition facts • Know subtraction facts • Add three 2/3 digit numbers mentally • Know multiplication facts <p>Learning Opportunities: 1.2, 2.2, 2.3, 2.4, 2.5, 2.8, 2.12, 2.13, 3.5, 6.1, 6.4, 6.5, 6.7, 6.10, 7.4, 12.4, 12.5</p>	<p>Know addition and subtraction facts (1h)</p>
	<p>M2: 7 Estimates and evaluates the reasonableness of solutions appropriate to grade level.</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Estimate costs and sums • Make ballpark estimates of exact answer • Estimate and solve addition/subtraction number stories with dollars and cents <p>Learning Opportunities: 4.5, 4.8, 6.1, 6.4, 6.6, 6.7, 6.10, 6.11, 10.5, 10.6, 10.8, 10.9, 11.1, 11.2</p>	<p>Estimate and solve 2-digit addition and subtraction Problems (1c)</p>
	<p>M2: 8 Applies properties of numbers (odd, even) and operations (commutative, <u>associative</u>, identity) to solve problems and to simplify computations involving whole numbers.</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Know complements of ten • Use properties of numbers to simplify computations <p>Learning Opportunities: 7.3</p>	

Grade Level 2, Power Standard 2

CCSU Power Standard #2 : Students know and apply the attributes of geometric figures. (Aligns with Vermont Standard 7.7)

Concepts to Emphasize: Symmetry, Perimeter

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.6	M2: 9 Uses <u>properties</u> , attributes, composition, or decomposition to sort or classify polygons or objects by a combination of two or more non-measurable or measurable attributes. M(G&M)–2–1	<p>Focus:</p> <ul style="list-style-type: none"> • Identify 2-D shapes • Draw line segments • Identify parallel/non-parallel line segment <p>Learning Opportunities: 5.2, 5.3, 5.4, 5.5, 5.6</p>	Sort and classify 3-dimensional geometric figures (2a) Identify properties of 2-dimensional geometric figures (2b)
7.6	M2: 10 No M2: 10 at this grade level		
7.6	M2: 11 <u>Identifies three-dimensional shapes (rectangular prisms, triangular prisms, cylinders, or spheres) and their attributes and recognizes them in their environment.</u>	<p>Focus:</p> <ul style="list-style-type: none"> • Identify 3-D shapes <p>Learning Opportunities: 5.7, 5.8, 5.9</p>	
7.6	M2: 12 No M2: 12 at this grade level (congruency using transformations)	<p>Focus:</p> <ul style="list-style-type: none"> • Identify symmetrical figures <p>Learning Opportunities: 5.9</p>	

7.6	M2: 13 No M2: 13 at this grade level (similarity)		
7.6	M2: 14 Demonstrates conceptual understanding of perimeter and area by using models or manipulatives to surround and cover polygons. M(G&M)–2–6	Focus: <ul style="list-style-type: none"> • Find area concretely • Find perimeter concretely Learning Opportunities: 9.4, 9.5, 9.8	Determine perimeter of a polygon using models or manipulatives (2c)
7.6	M2: 17 No M2: 17 at this grade level (3-D figures)		
7.6	M2: 18 Solves problems using a two-dimensional coordinate system (x and y axes—quadrant I) to locate and describe positions on a map.	Focus: <ul style="list-style-type: none"> • Use coordinate grid to find places on a map 	

Grade Level 2, Power Standard 3

CCSU Power Standard #3: Students know and use units of measure (See Appendix B). (Aligns with Vermont Standard 7.7)

Concepts to Emphasize: Inches, Feet, Centimeter, Meter

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.7	<p>M2: 15 Measures and <u>uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands.</u> (Benchmarks in Appendix B.)</p> <p style="text-align: right;">M(G&M)–2–7</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Tell time to five minutes • Use alternated names for times of day • Read °F on a thermometer • Measure to the nearest ½ inch/ ½ centimeter • Identify equivalencies for inches/feet/yards • Identify equivalencies for mm/cm/m • Choose and use ruler/tape measure and meter-yard stick accurately <p>Learning Opportunities 3.3, 3.4, 4.3, 4.4, 7.7, 9.2, 9.3, 9.4, 9.5, 9.6. 9.9, 9.10, 12.1, 12.2,</p>	<p>Convert between inches and feet; centimeters and meters; minutes and hours (3a)</p> <p>Tell time to the five-minute (3b)</p>
7.7	<p>M2: 16 Determines elapsed and accrued time as it relates to the <u>patterns of days of the week, months, hours, and tells time to five minutes.</u></p>	<p>Focus:</p> <ul style="list-style-type: none"> • Use calendar skills and concepts • Determine elapsed time <p>Learning Opportunities: 12.1</p>	

Grade Level 2, Power Standard 4

CCSU Power Standard #4: Students identify and extend patterns to express relationships between and among variables, and solve equations and inequalities. (Aligns with Vermont Standard 7.8)

Concepts to Emphasize: Solution

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.8	<p>M2: 19: Identifies and extends to specific cases a variety of patterns (linear and non-numeric) represented in models, tables, or sequences by extending the pattern to the next element, or finding a missing element (e.g., 2, 4, 6, _____, 10). M(F&A)–2–1</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Count by 2s, 5s, and 10s; describe the pattern • Complete numbers sequences; identify/use number patterns to solve problems • Complete “What’s My Rule” tables • Completes non-numeric patterns • Complete simple Frames-Arrows diagrams <p>Learning Opportunities: 1.1, 1.8, 1.11, 2.10, 2.11, 7.1</p>	Solve function tables (Frames & Arrows: Everyday Math) for output using addition and/or subtraction (4a)
7.8	<p>M2: 20 Demonstrates a conceptual understanding of linear relationships ($y = kx$) as a constant rate of change qualitatively (growth—student growing taller) and quantitatively (measurable growth—2 inches each year) change.</p>		
7.8	<p>M2: 21 No M2: 21 at this grade level (algebraic expressions)</p>		

7.8	<p>M2: 22 Demonstrates conceptual understanding of equality by <u>finding the value that will make an open sentence true (e.g., $2 + \square = 7$). (limited to one operation and limited to use addition or subtraction).</u></p>	<p>Focus:</p> <ul style="list-style-type: none"> • Find missing addends for any multiple of ten • Determine equality between two expressions <p>Learning Opportunities 7.2, 7.7</p>	Solve for missing addends (4b)
-----	---	---	--------------------------------

Grade Level 2, Power Standard 5

CCSU Power Standard #5: Students represent, interpret, and predict using data. (Aligns with Vermont Standard 7.9)

Concepts to Emphasize: Data

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.9	<p>M2: 23 Interprets a given representation (pictographs with one-to-one correspondence, <u>line plots</u>, tally charts, or tables) to answer questions related to the data, or to analyze the data to formulate conclusions.</p> <p>(IMPORTANT: <i>Analyzes data consistent with concepts and skills in M2: 24</i>)</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Make tallies and give total • Find the median of a set data set <p>Learning Opportunities: 1.5, 7.8</p>	Interpret and analyze data from a graph, table, chart, and line plot (5a)
7.9	<p>M2: 24 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using “more,” “less,” or “equal.”</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Determine the mode of data set • Determine median, max, min, and range of data set • Compare quantities on a bar graph <p>Learning Opportunities: 12.6, 12.7</p>	
7.9	<p>M2: 25 Organizes and displays data using diagrams, models, tally charts, <u>or tables</u> to answer questions related to the data, to analyze the data to formulate conclusions.</p> <p>(IMPORTANT: <i>Analyzes data consistent with concepts and skills in M2: 24.</i>)</p>	<p>Focus:</p> <ul style="list-style-type: none"> • Plot data on a bar graph • Organize and display data <p>Learning Opportunities 7.9</p>	Collect and organize data to create a table or chart (5b)

Grade Level 2, Power Standard 6

CCSU Power Standard #6: Students find probability theoretically and experimentally. (Aligns with Vermont Standard 7.9)

Concepts to Emphasize: Certain, Impossible / Possible, Combinations, Likely

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.9	M2: 26 Uses counting techniques to solve problems involving combinations using a variety of strategies (e.g., student diagrams, organized lists, tables, tree diagrams, or others); (e.g., “How many ways can you make 50 cents using nickels, dimes, and quarters?”)	Focus: <ul style="list-style-type: none"> • Use counting technique 	Identify the number of combinations using counting techniques (tree diagram, organized list, table) (6b)
7.9	M2: 27 For a probability event in which the sample space may or may not contain equally likely outcomes, uses experimental probability to describe the likelihood or chance of an event using “more likely,” “less likely,” “ <u>equally likely,</u> ” “ <u>certain,</u> ” or “ <u>impossible.</u> ”	Focus <ul style="list-style-type: none"> • Determines chance of events 	Explore the probability of an event as certain, impossible, or equally likely (6a)
7.9	M2: 28 In response to a teacher - or student-generated question or hypothesis, collects appropriate data, <u>organizes the data,</u> <u>displays/represents the data,</u> and <u>makes observations about the data to draw conclusions about</u> the question or hypothesis being tested. (IMPORTANT: <i>Analyzes data consistent with concepts and skills in M2: 24.</i>)	Focus <ul style="list-style-type: none"> • Organizes and displays data from student generated question 	
7.9	M2: 29 No M2: 29 at this grade level (experimental probability)		

Grade Level 2, Power Standard 7

CCSU Power Standard #7: Students use a variety of approaches to solve problems and to communicate solutions. (Aligns with Vermont Standard 7.9)

Concepts to Emphasize: Reasonableness

Aligns with Vermont Standards	Vermont Grade Cluster Expectations Competency Focus	Focus and Learning Opportunities	CCSU Power Indicators Proficiency Focus
7.9	<p>M2:30: Demonstrate understanding of mathematical problem solving and communication through:</p> <ul style="list-style-type: none"> • Approach & Reasoning -- The reasoning, strategies, and skills used to solve the problem; • Connections -- Demonstration of observations, applications, extensions, and generalizations; • Solution -- All of the work that was done to solve the problem, including the answer; • Mathematical Language -- The use of mathematical language in communicating the solution; • Mathematical Representation -- The use of mathematical representation to communicate the solution; and • Documentation -- Presentation of the solution. 	<p>Learning Opportunities Everyday Mathematics Open Response (unit assessments)</p>	<p>Approach a problem correctly (7a)</p> <p>Provide solution with evidence (7b)</p> <p>Communicate mathematically (7c)</p>